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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,504	11/21/2003	Shuichi Miura	117803	7615
25944	7590	05/26/2006	EXAMINER	
OLIFF & BERRIDGE, PLC			THOMAS, JAISON P	
P.O. BOX 19928			ART UNIT	
ALEXANDRIA, VA 22320			PAPER NUMBER	

1751

DATE MAILED: 05/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/717,504	Applicant(s) MIURA, SHUICHI	
	Examiner Jaison P. Thomas	Art Unit 1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 and 8-11 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8 and 9 is/are allowed.
- 6) ☒ Claim(s) 1-6, 10 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/2006 and 4/2006</u> . | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. In response to the paper filed 3/17/2006, Claims 2, 3, 5, 6 are original and remain unchanged, Claims 1, 4, 8, 9 are amended, Claim 7 is canceled, and Claims 10 and 11 are new.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki (4,696,764).

Yamazaki teaches a electrically conductive adhesive composition using both "abrasive grain-like electrically conductive particles" which include particles of nickel and nickel alloy (refer to table in Column 5) as well as "electrically conductive fine particles" where particle diameters "in the range of  $10^{-4}$  to 0.5 micrometer may be used" (refer to Column 5, line 55). These fine particles include tin oxide (refer to table in Column 6). Note tin oxide has a melting point of 1630°C. Also Yamazaki teaches usage of the fine particles in the weight ranges of 0.2 to 20% "preferably 1 to 15% by weight" (refer Column 6, lines 20-21). Yamazaki further teaches the use of a resin and a solvent for the resin wherein the disclosed "electrically conductive particles" are

Art Unit: 1751

"incorporated and dispersed" in the resin (refer Column 21, lines 21-45). Yamazaki also teaches "fine particles" with the same size ratios to the "abrasive grain-like electrically conductive particles" as described in Claim 3. The weight range limitation of Claim 4 has been discussed above and the tin oxide particles disclosed in Yamazaki possess BET values and the melting points required of Claim 4. All claim limitations of Claim 5 have been discussed above. With respect to Claim 6, the tin oxide particles and nickel particles disclosed in Yamazaki possess the BET ratios required in Claim 6.

The reference is anticipatory.

### ***Response to Arguments***

4. Applicant's arguments, in regards to Claims 1-6, filed 3/17/2006 have been fully considered but they are not persuasive. Applicant's attention is directed to the fact that the compositions disclosed by Yamazaki (US Patent No. 4,696,764) contain the same components as required by Claims 1-6 and therefore are capable of performing the same functions as required by the instant claims. The addition of the "multilayer" element in amended Claims 1 and 4 are located in the preamble of the instant claims and therefore are not given patentable weight.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 1751

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuzo et al. (Japanese Patent Application Publication No. 04-043504).

The following citations are taken from the provided English language translation of the application publication abstract as well as human translation provided by STIC Translation Services.

Shuzo teaches a paste for an inner electrode of laminated ceramic capacitor wherein the paste is comprised of a palladium metal powder which is coated by an oxide particle selected from the group comprised of silicon, aluminum, magnesium, and cobalt wherein the oxide particle is in colloidal solution form. The disclosed coated particles are distributed in an "organic vehicle." The metal oxide is present at to 1 to 5 weight percent in relation to the amount of the palladium powder (Abstract). The reference also teaches embodiments of the invention including silicon oxide particles wherein the silicon oxide particles have particle sizes ranging from 10 to 20 nm (pg. 17, upper right hand column, Embodiment 1, line 11).

Shuzo is relied upon as discussed above, however, Shuzo does not teach the the specific particle sizes of the magnesium or aluminum oxide particles, the relative sizes of the metal oxide and metal particles, BET values, BET value ratio between the metal oxide and metal particles, or melting points for the metal oxides.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that based on the interchangeability of the metal oxides as

Art Unit: 1751

suggested by the reference, it would have been obvious that the magnesium or aluminum oxide particles would have particle sizes similar to those disclosed in the preferred embodiments containing silicon oxide particles. It is notoriously well known in the art that the metal oxides taught in Shuzo would exhibit BET values and melting points as required by the instant claims therefore does not patentably distinguish the claims over the prior art of record. Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the said BET values and metal oxide particle sizes of Shuzo through routine experimentation for best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the prima facie case of obviousness. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). See also *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It is noted that the Shuzo reference cited above was disclosed in the Information Disclosure Statement dated 2/23/2006. The IDS was not accompanied by a 1.97(e) statement and therefore this action is made final.

***Allowable Subject Matter***

7. Claims 8 and 9 are allowable over the prior art of record.

Art Unit: 1751

8. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach nor does it reasonably suggest a ceramic electronic component wherein a conductive layer formed on the component is comprised of metal particles and metal oxide particles selected from the Markush group of claimed oxides and wherein the oxide particles have the specific physical properties.

***Final Rejection***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

**Conclusion**

10. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The references are considered cumulative to or less material than those discussed above.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaison P. Thomas whose telephone number is (571) 272-8917. The examiner can normally be reached on Mon-Fri 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Application/Control Number: 10/717,504

Page 8

Art Unit: 1751

JT

Jaison Thomas

Examiner

5/12/2006

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mm/c

Mark Kopec  
Primary Examiner